

MOLLUSKS COLLECTED BY R. C. MCGREGOR IN NORTHERN CALIFORNIA.

BY HENRY A. PILSBRY.

Mr. R. C. McGregor being engaged during the summer of 1898 in Fish Commission work which took him over a considerable area in northern California, interested himself in the collection of mollusks, which he sent me for study.

The region is one which has been very superficially examined hitherto, and it is not surprising that a number of very interesting species were found. But few land shells were taken, among them the extremely rare *Polygyra roperi*, and a peculiar *Circinaria*. *Pyramidula striatella* occurred in many localities, the specimens being referable, probably, to the ill-defined variety *cronkhitei*.

Among the fresh-water pulmonates, the re-discovery of *Ancylus patelloides* Lea, a species falling into Clessin's genus *Lanx*, and *A. altus* Tryon, also a *Lanx*, are the most important finds. These species will be fully treated elsewhere, with illustrations of the anatomy.

The series of *Goniobases* collected induced me to attempt a revision of the West American species, the results of which are included below.

The list of species is as follows:

Epiphragmophora mormonum (Pfr.). Redding, Shasta Co.

Polygyra loricata (Gld.). Battle Creek, s. boundary Shasta Co.

Polygyra roperi (Pils.). Redding, Shasta Co. One adult specimen.

Vallonia pulchella (Müll.). Redding, Shasta Co.

Circinaria sp. undet. Redding. I cannot refer the single fresh adult shell collected to any of the described forms.

Pyramidula striatella (Anth.). Goose Lake, Modoc Co.; Duck Lake, 20 miles west of Susanville, and Eagle Lake, Lassen Co.; Bartle's, Siskiyou Co., on McCloud River.

Vitrea hammonis (Ström). Bartle's and Duck Lake.

Vitrina pfeifferi Newe. Bartle's and Duck Lake.

Zonitoides arborens (Say). Goose Lake, Modoc Co.

Succinea nuttalliana (Lea). Goose Lake, Modoc Co.

Succinea stretchiana (Bld.). Duck Lake and Bartle's.

Limnæa stagnalis (L.). Upper waters of Willow Creek, trib. to Susan R., Lassen Co.

Limnæa proxima (Lea). South Fork Pitt R., Modoc Co.

Limnæa desidiosa (Say). Redding (reported as *L. adelinæ* on p. 60 of vol. xii.).

Limnæa humilis (Say). Duck Lake, Lassen Co.

Pompholyx effusa (Lea). Shasta Co. in the Sacramento R. at Redding, in Battle Creek, and Pitt R. below the falls; Grasshopper Lake, Lassen Co.; also Klamath River at Klamathton, Siskiyou Co.

Carinifex newberryi (Lea). Eagle Lake; Head of Fall River, southeastern Siskiyou Co.

Planorbis trivolvis hornii Tryon. Upper waters of Willow Creek, Lassen Co.

Planorbis parvus Say. Duck Lake, Lassen Co., and a small sinking creek on Van Loan's ranch, 20 miles S. of Alturas; also Redding, Shasta Co.

Ancylus oregonensis Clessin. Redding.

Lanx patelloides (Lea). Shasta Co., at Redding, Battle Creek, and Pitt R. below falls. At the latter two localities a spotless form or variety occurs, associated with spotted specimens.

Lanx altus (Tryon). Klamath River at Klamathton, Siskiyou Co. This is probably only a variety of Lea's *Ancylus newberryi*, but it is rounder and higher, and the young are more conic and not elevated at the ends as in *L. newberryi*.

Physa triticea Lea. Battle Creek, S. border of Shasta Co.; S. Fork Pitt R. at South Fork P. O., Modoc Co.; West Fork Feather R., Morgan Spr., Plumas Co.; Duck Lake and Willow Creek, Lassen Co.; Dunsmuir, Siskiyou Co. A common species in northern California, originally described from young specimens.

Goniobasis plicifera (Lea). Klamath River at Klamathton, Siskiyou Co. A form heavily striate throughout, but folded on the earlier whorls only.

Goniobasis nigrina (Lea). Battle Creek, southern boundary of Shasta Co., 10 miles above its mouth; West Fork Feather River, Plumas Co.; small spring at Eagle Lake, Lassen Co.; headwaters of Fall R., southeastern Siskiyou Co.

Goniobasis occata (Hinds.). Battle Creek, southern boundary of Shasta Co. The upper keels are generally nodose, as in *G. acutifilosa*, which is evidently a form derived from *occata*.

Goniobasis acutifilosa (Stearns). Small creek at Eagle Lake. Sculpture less strong than in the typical form.

* *Goniobasis acutifilosa siskiyouensis* n. v. Excessively variable in

sculpture, spiral carinae wholly absent on the last whorl or two, or reduced to two or three low angles; or when developed, more numerous and less prominent than in the type form. Contour about as in *acutifilosa*. Based upon a series of 94 shells from the headwaters of Fall River, S.-E. Siskiyou Co. There is also a series of the same form in the collection labelled "*G. circumlineata* Tryon, California."

The *Goniobases* of the West Coast are fully as variable as those of the East; and far too many species have been made. The following synopsis is believed to be in accordance with the facts.

- a. Earlier (or all) whorls longitudinally costate. *plicifera*.
- a¹. Earlier (or all) whorls spirally keeled.
 - b. Last whorl with many spiral keels. *occata*.
 - b¹. Last whorl with few spiral keels. *acutifilosa*.
 - b². Last whorl rounded, not sculptured. *rubiginosa*.
- a². Earlier whorls convex, without spiral or longitudinal sculpture. *bulbosa, nigrina, circumlineata*.

G. plicifera Lea includes the following synonyms or slight local races: *silicula* Gld., 1847, *shastaensis* Lea, 1856, *rudens* Reeve, 1860, *bairdiana* Lea 1862. Its range extends from the southern end of Puget Sound, Washington, to Pitt and Feather Rivers, California.

G. bulbosa Gld., 1847, described from the Columbia River, and before me from the Owyhee River, includes *newberryi* Lea, 1860, from the upper Des Chutes River, both streams being tributary to the Columbia.

It is doubtful whether *G. nigrina* Lea, 1856, should be included in *bulbosa*, but it seems to me very likely. *G. nigrina* includes *draytonii* Lea, 1862, and *Melania californica* Clessin, Malak. Blätter (n. F.) v, p. 189, pl. 4, f. 9, 9 (1882), as synonyms, and *G. circumlineata* Tryon is probably only a variety, distinguished by larger size and more or less malleated whorls, which show spiral flat faces like some forms of *Limnaea palustris*, or sparse low spiral carinae. *G. nigrina*, in its several forms, is distributed over northern California from Sonoma and Napa counties north to Humboldt, and east to Lassen and Plumas counties. It is characteristic of the Sacramento, as *bulbosa* is of the Columbia, drainage.

The fossil *G. tayloriana* Gabb has the sculpture of *occata* and *acutifilosa*, and is probably an ancestral form of these species.

Fluminicola seminalis (Hinds). Small creek at Eagle Lake; head of Fall River, Southeastern Siskiyou Co.; S. Fork Pitt R., Modoc Co.

Valvata virens Tryon. Willow Creek, tributary to Susan River, Lassen Co.

Anodonta californiensis Lea. Upper waters of Willow Creek.

Margaritana margaritifera (L.). Sacramento R. at Redding.

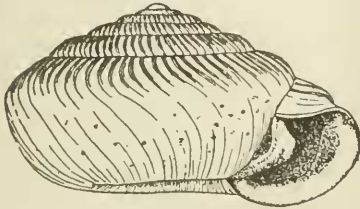
Pisidium ultramontanum Prime. Duck Lake, Lassen Co.; W. Fork Feather R. at Morgan Spr., Plumas Co. Another species of *Pisidium* occurred in Modoc and Siskiyou counties.

A NEW PLIOCENE POLYGYRA FROM FLORIDA.

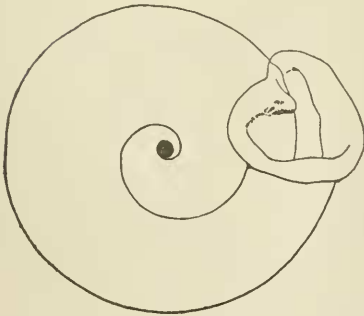
BY CHAS. W. JOHNSON.

Polygyra caloosaensis, n. sp.

Whorls six, slightly depressed, crossed on the body whorl above by about 65 coarse, oblique, subarcuate costæ, that end rather abruptly at the periphery; toward



the apex they become gradually smaller or obsolete, apical whorl smooth; below the periphery the costæ become obsolete and the surface has an indented or malleated appearance. Umbilicus wide, one entire whorl (beside the body whorl) being visible below. Aperture sublunate, narrowed above, lip broad, unevenly reflected, slightly thickened on the base, giving the appearance of an obsolete tooth, callus continuous over the parietal wall and bearing a prominent oblique process, that is subtruncate above, but extends narrowly toward the base. Alt. 6 mm., greatest diam. 11 mm.



Two specimens, (one immature) from the material collected by the late Dr. H. G. Griffith from the Pliocene beds of the Caloosahatchie River, Florida.